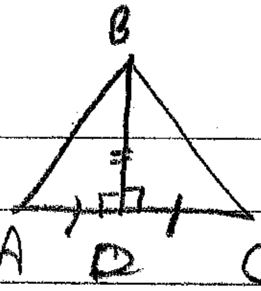
201
5.6 HW
Key

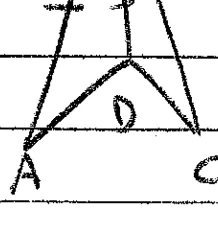


Indirect Proof
G: $\triangle ABC$ is NOT isos
$\overline{BD} \perp \overline{AC}$
P: D is NOT the midpt $\overline{AC}$

① Assume D is the midpt of $\overline{AC}$. Then
$\overline{AD} \cong \overline{DC}$ by def of midpt. And $\overline{BD} \cong \overline{BD}$ by
② Reflexive. Also $\angle ADB \cong \angle CDB$ b/c the def.
of $\perp$ lines tells us they are right $\angle$s and all right
$\angle$s are $\cong$.
This means $\triangle ADB \cong \triangle CDB$ by SAS
And $\overline{AB} \cong \overline{CB}$ by CPCTC making $\triangle ABC$ isos.
* Contradicts the given
③ Our assumption is false D is not the
midpt of $\overline{AC}$

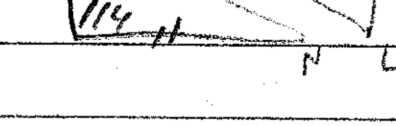
p338 - 1-9, 11-18

1. You reason until you contradict the given
2. A door has hinges the wider the opening, then
the larger the angle.
3.

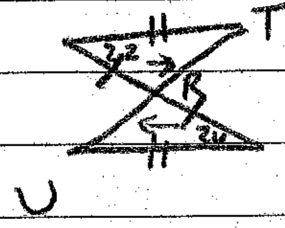


AD > CD

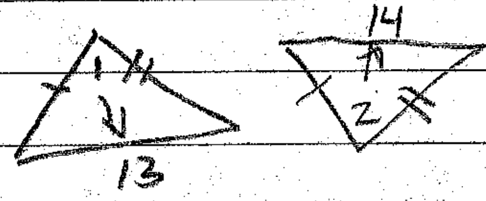
4. MN < KL



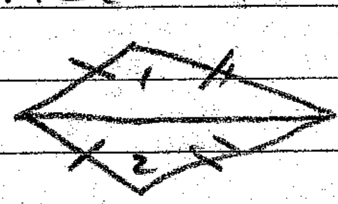
5. $TR < UR$



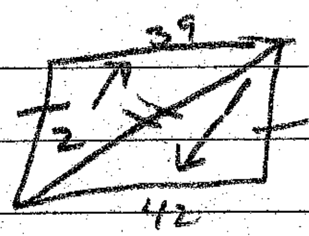
6. $m\angle 1 < m\angle 2$



7. $m\angle 1 = m\angle 2$

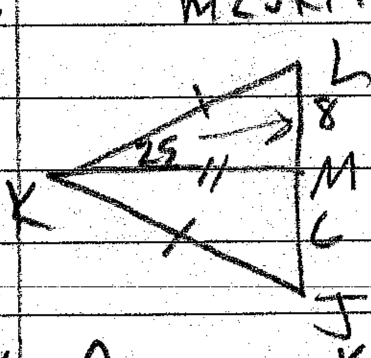


8. $m\angle 1 > m\angle 2$



9. $m\angle JKM < 25°$

(A 20°)



11. Assume xy is even.

12. Assume $\angle B$ is a right $\angle$

13. $\angle A$ could be Right or Straight $\angle$

14. The $\angle$s must be included to use hinge thm

15. Hinge thm is for $\triangle$s only

16. $2x+5<66$

$2x<61$

$x<30\frac{1}{2}$

$2x+5>0 \quad x>-\frac{5}{2}$

$-\frac{5}{2}<x<30\frac{1}{2}$

17. Find missing $\angle$ 51°

$3x+2>x+3$

$x>\frac{1}{2}$

Rest.

$x+3>0$

$x>-3$

$3x+2>0$

$x>-\frac{2}{3}$

Use ext $\angle$ thm

18. $m\angle ABD > m\angle BDC$

$4x-3>2x$

$2x>3$

$x>\frac{3}{2}$

Restr.

$2x>0$

$x>0$

$4x-3>0$

$x>\frac{3}{4}$